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Importance of nephrology consultation on clinical outcome in patients with acute kidney injury

Harin Rhee¹, Yerin Je², Meeyoung Park², Il Young Kim³

¹Department of Internal Medicine-Nephrology, Pusan National University Hospital, Korea, Republic of

²Department of Computer Science, Kyung Nam University, Korea, Republic of

³Department of Internal Medicine-Nephrology, Pusan National University Yangsan Hospital, Korea, Republic of

Objectives: Acute kidney injury (AKI) is prevalent in the critically ill patients, which is associated with increased risk of in-hospital mortality. Nephrology consultation might be a possible risk factor, nevertheless it has been rarely evaluated in South Korea.

Methods: This is the single center, retrospective study based on the electronic medical records (EMR) at 3rd affiliated hospital. We extracted medical records of intensive care unit(ICU) admitted patients from 2011 to 2021 and detected AKI based on the KDIGO serum creatinine criteria. AKI diagnosis date was defined as the first day of significant serum creatinine increase (>0.3 mg/dL) within 48 hours. Presence of nephrology consultation was extracted from the EMR.

Results: A total of 2461 AKI patients were included. Median age was 65(56-75) years, 1459(59.3%) were male, and 1065(43.35) were AKI stage 3. During the median 5(3,11) days of ICU admission, nephrology consultation was observed in 512(21%) patients. Patients received nephrology consultation were older, had more comorbidities, and received more dialysis. In the multivariable model, nephrology consultation showed 30% lower risk of in-hospital mortality (HR 0.694 (0.557, 0.864)). Other factors significant for in-hospital mortality were older age, higher SOFA score, presence of sepsis, diabetes, hypertension, heart disease, and cancer (Table 1).

Conclusions: In AKI patients at ICU, nephrology consultation is associated with 30% lower risk of in-hospital mortality. Therefore, timely nephrology consultation should not be missed during the process of ICU care.

Table 1. Multivariable cox regression analysis predicting in-hospital mortality